

# Meadow Rover

Mount Rainier National Park 2013



# Handbook

# Mount Rainier National Park

## Volunteer-in-Parks Program

### 2013 Meadow Rover: Position Description

**Please Note: All Meadow Rover agreements expire April 1, 2014.  
Renewal required after April 1, 2014.**

**Position Title:** Meadow Rover

**Goal:** Meadow Rovers improve protection of the meadows at Paradise and Sunrise through visitor education.

**Duties:**

- Sign-in before roving and sign-out after roving; record hours and contacts. Rover is only officially working if signed in.
- Make safety the highest priority in the conduct of all duties.
- Provide visitors with positive resource education messages using the “Authority of the Resource” Technique when practical/possible.
- Actively promote understanding of and compliance with NPS regulations regarding use of the meadows (stay on trails, no flower picking, no pets on trails, no littering, etc.)
- Provide information to visitors on a wide range of topics, including trails, flowers, wildlife, etc.
- Provide additional roving informal interpretation as possible or as scheduled.
- Provide emergency assistance as training allows, using park radio to call for help if necessary/possible.
- Sign-in before roving and sign-out after roving; record hours and contacts
- Wear designated uniform and required safety equipment – Safety First! Maintenance/Trail Work must be approved by supervisor in advance. Training required!
- Complete training, orientation, and volunteer agreement before first rove.

**Qualifications:**

- Good communication skills, patience, and a genuine enjoyment of people.
- Maturity, a positive attitude, and the ability to think on your feet.
- General knowledge of park resources and regulations, and the desire to continue learning and applying new knowledge.
- Ability to work independently.
- Good physical condition for walking and hiking at elevations above 5000’.

**Time commitment:** at least 24 hours between June 1 and September 30  
Email: [MORA\\_Meadow\\_Rovers@nps.gov](mailto:MORA_Meadow_Rovers@nps.gov) (use this address for most email communications; specify area or person in subject line)

### **2013 Meadow Rover Awards:**

In 2013, at least three rovers will be chosen as our outstanding rovers of the year. Anyone can nominate (themselves or someone else). **The judging criteria are: quantity of service, quality of service, mentorship, and innovation of service delivery.**

Rovers of the year will be selected by rover coordinators and supervisors. Winners can share lunch with a park administrator or a hike with a park scientist! The deadline for submitting a nomination is September 15, 2013. The awards will be announced by October 15. No form is necessary. Just submit descriptions of how the nominee fulfilled the criteria for the award. Send nomination by mail or email to Curt Jacquot, Mount Rainier National Park, 55210 238<sup>th</sup> Avenue east, Ashford, WA 98304; or email: [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov) or [curt\\_jacquot@nps.gov](mailto:curt_jacquot@nps.gov)

### **Meadow Rover Contacts & Resources**

**Email:** MORA\_Meadow\_Rovers@nps.gov

Please be specific in your subject line ("Longmire campsite request," etc.)

### **Mount Rainier Volunteers Blog:**

<http://rainiervolunteers.blogspot.com>

**Mount Rainier Volunteers Discussion Group.** A good spot to arrange rides or roving partners: <http://groups.yahoo.com/group/RainierVolunteers>

### **National Park Service Online Interpretive Training Classes:**

<http://eppley.org/elearning/interpretation-1>

Foundations of Interpretation course is free. Informal Visitor Contacts course is recommended. Discount code to lower fee based courses to \$29.00 is: 07EPLY019

**Phone Numbers: (Primary contact for meadow roving questions is email address: [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov) )**

### **Title/Name/Email/Phone**

Meadow Rover Coordinator: Maureen McLean: [Maureen\\_McLean@nps.gov](mailto:Maureen_McLean@nps.gov) 360-569-569-6574

Volunteer & Meadow Rover Program Manager: Kevin Bacher: [Kevin\\_Bacher@nps.gov](mailto:Kevin_Bacher@nps.gov), 360-569-6567

Sunrise Lead Interpreter: Scott Coombs: [scott\\_coombs@nps.gov](mailto:scott_coombs@nps.gov) 360-569-6578

West Area Interpretive Ranger: Curt Jacquot: [curt\\_jacquot@nps.gov](mailto:curt_jacquot@nps.gov) 360-569-6577

### **Building Phone Numbers:**

Paradise Visitor Center: 360-569-6571

Longmire Museum: 360-569-6575

Ohanapecosh Visitor Center: 360-569-6581 (Closed in 2013)

Sunrise Visitor Center: 360-663-2425

**To arrange a campsite** please email [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov) with the date and camp in your subject line. Please email requests at least 1 week in advance. Requests emailed less than 3 days in advance may not be filled.

**To arrange an orientation** after attending New Meadow Rover training please contact [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov). Please let us know in subject line if you would like the orientation at Sunrise or Paradise.

**To arrange training and orientation:** If you did not attend a training session please email [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov). Please specify whether you want the training and orientation at Paradise or Sunrise.

## SUBALPINE VEGETATION AND RESTORATION FACTS

- There is an average of 83 plants per square foot in the subalpine meadows at Paradise.
- One step off trail tramples, on average, 20, 18, and 14 plants for a man's shoe size 11, woman's shoe size 8, and child's shoe size 2.
- Avalanche lilies are unlikely to bloom the following year if stepped on.
- One pass by one person one time per week in the same area will result in a change in vegetation.
- It takes no more than 15 people to walk in the same path to create a social trail.
- A uniformed presence prevents 100% of off-trail hiking – the method that receives the highest level of compliance.
- If 4% of visitors hike off-trail in Paradise, based on 1,500,000 visitors to Paradise it is estimated that:
  - 60,000 people hike off trail
  - 1,038,000 plants are trampled if only one step is taken
  - 10,380,000 plants are trampled if 10 steps are taken
- It costs between \$2.50 and \$3.50 per plant for restoration.
- Our restoration goals are to plant 8 -10 plants per square foot.
- In 2004 only 18,000 plants were grown for restoration at Sunrise and Paradise.... mostly Sunrise.
- In the late 1980s there were 913 impacts totaling 28 miles in Paradise
- There are 16 trails, a total of 13.5 miles, in Paradise.

## Roving Interpretation

Adapted from "The Roving Interpreter's Checklist" and "Visitor Contact: Accentuating the Positive" by Dr. Jerry Blanche, and other sources. Updated 6/18/2010.

1. Roving interpretation establishes a National Park Service presence, provides information, orientation, and safety, and offers visitors an opportunity for better understanding park resources.
2. In roving interpretation we join the visitors at their place, on their time, and work with them to select and transmit the message they need.
3. Roving interpretation demands:
  - a. Social interaction skills...
  - b. Park resource knowledge...
  - c. Park facility knowledge...
  - d. Park regulations knowledge... and
  - e. Ability to think and act with good judgment.
4. Rule #1: Be safe.
  - a. Know the hazards of your area. Are there dangerous places on the trail? Is there dangerous weather in the forecast?
  - b. Be sure you have a radio for emergency use, and know how to use it.
  - c. Is the place you're going too remote to rove alone?
5. Know current happenings of interest to the visitor.
  - a. Check the weather forecast.
  - b. Know the interpretive activities offered that day. Carry a copy of the park newspaper.
  - c. Know about road closures, trail construction, special events, etc.
6. Know your visitors and what they may be seeking during their visit.

- a. Are there any visiting special interest groups? Foreign visitors, individuals with disabilities, Scouts, Shriners, school groups, the President, etc?
  - b. What might be the special interests and needs of these groups? For example, know which trails are accessible and to what extent.
  - c. What cultures are you likely to encounter? How will this affect your interactions? Be aware that some people see anyone with a badge or uniform as the police and are predisposed to be wary.
7. Know the area and what questions you're likely to be asked.
  - a. What flowers are currently blooming? What animals are sighted frequently? What are those rock formations on the mountain called? Where do the common climbing routes go?
  - b. What questions are likely? What questions did you have when you were new to the area? Think out short interpretive responses to these questions ahead of time.
  - c. Learn to know the trails and where they go. Carry maps along with you to share with the visitors.
  - d. Know the regulations that apply to your area. Are dogs permitted on the trails? Can people hike off-trail? Is camping allowed, and are permits required? Think through positive, educational ways to inform people of the regulations.
8. Be professional and prepared.
  - a. Wear a clean uniform with badge or patch and nametag visible.
  - b. Carry a fully-charged, working radio, and know how to use it and who to call.
  - c. Carry a first aid kit and full water bottle.
  - d. Carry a garbage bag and use it as you walk along the trail.
  - e. Do you need sunglasses? Remove them, if conditions permit, when talking to visitors.
  - f. Carry and use sunscreen, rain gear, or other appropriate gear.
  - g. Carry other useful items in your pack, including common handouts, field guides, binoculars, photos of animals, pictures of the mountain for use on cloudy days, etc.
  - h. "Attractants" help capitalize on people's curiosity and open opportunities for communication. For example, meadow rover buttons, Jr. Ranger books, binoculars, field guides, puppets, pictures, study skins, etc.
9. Keep things positive! Advantages include:
  - a. Long-term changes in behavior are more likely.
  - b. The channels of communication will remain open for continued or later messages from you or another park employee.
  - c. Positive contacts discourage defensiveness.
  - d. Positive messages are more likely to be shared with others.
10. Techniques for positive informal contacts:
  - a. Identify yourself pleasantly.
  - b. Quickly identify to yourself what behavior is *desired*—e.g., "stay on the trail."
  - c. Attempt to avoid negative terms, such as "no," "don't," "stop," and "not."
  - d. Be aware of body language and tone of voice—both yours and theirs. For example: Speak softly and respectfully. Stand shoulder-to-shoulder rather than face-to-face. Take off sunglasses. Don't cross your arms. Keep an open and friendly stance.
  - e. Calmly, without excessive volume or force in your voice, use the words of the *desired* behavior.
  - f. Thank them for helping you by exhibiting the desired behavior. Speak on behalf of the resource. For example: "Hello. I'm Jerry Blanche. These beautiful flower

meadows are extremely fragile. Staying on the trail will help us protect them so that many others may enjoy them for generations to come. Thank you for your help.” As opposed to: “Hey! Stay on the trail!”

- g. Listen patiently to their response. Show them that you truly are listening to them by looking at them and rephrasing their responses. Assure them that you know they have not made a *deliberate* mistake. Avoid arguments.
- h. Give a cheerful, positive send-off, such as, “have a good hike!”

11. Other suggestions

- a. Assume the best—everyone makes mistakes. Assume ignorance rather than malice.
- b. Talk on their level. Bend down to children, if necessary, to reduce the “power” differential.
- c. Use their names as much as possible.
- d. Refer to other positive examples in the area; in fact, compliment a good example, if appropriate, in the presence of a bad one, or use it as an opener.
- e. Try not to embarrass parents in front of their children. Ask parents to share the lesson with their children.
- f. In a group, pick one person to chat with rather than the whole group. Others will listen in.
- g. Visitors will probably follow your lead in behavior: anger with anger, calm with calm. What you say first sets the stage for the rest of the contact.
- h. Remember to describe what they are doing, rather than evaluating them as human beings.
- i. Avoid “loaded” or emotional language, like “stupid,” “deliberate,” “ignorant,” “kid,” etc.
- j. Back off if the situation gets confrontational.

## Paradise Q&A

**1) How far do we have to hike to get to the nearest snow?**

It varies from year to year and month to month. North-facing slopes will have snow longer into the summer than south facing slopes. Often there are pockets of snow around Glacier Vista.

Remind people to stay on the trails in the Paradise area. Visitors are not allowed to leave the trail to reach a snow patch. If even a handful of people do this, social trails will develop that will scar the area for years.

**2) How much snow did Paradise receive last winter? Was that more/less than usual? What is the average snowfall here?**

Average snowfall for Paradise is about 680 inches. This past year we got \_\_\_\_\_. Paradise has been known to receive as much as 1122 inches (93½ feet!) in a single year, and actually held the world record from 1972 until 1999, when Mt. Baker got 1140 inches.

**3) Is Paradise open during the winter? Are chains needed to get up here?**

The road from Longmire to Paradise is open year round. During the winter the road is gated at Longmire. The road is open every morning – weather permitting. There may be occasions when the road remains closed (too much snow for plows, extreme avalanche danger or extreme winds). The opening time can vary from 8 am to as late as 1 pm.

The Paradise Inn is closed during the winter.

At times visitors may need chains to get to Paradise. Winter visitors should always be prepared for adverse driving conditions and should carry chains. Chains can be purchased at the Longmire General Store.

**4) What is the most popular climbing route from Paradise?**

Paradise to base camp at Camp Muir; Disappointment Cleaver or Ingraham Direct to the Summit.

**5) When was Mount Rainier first climbed?**

In 1857, August Kautz and four companions made the first documented attempt to climb to the summit. Kautz almost made it. The rest of his party had turned back due to exhaustion. Kautz made it to about the 14,000 ft level before turning back due to the late hour and changing weather.

In 1870, Hazard Stevens and Philemon Van Trump made the first successful documented climb to the summit. They were guided to Bear Prairie by James Longmire, and from there to Paradise by an Indian named Sluiskin.

Based on oral traditions, native people probably made it to the top before then.

**6) Where is Camp Muir? Can I see it from here? What is up here? Does a ranger live there all summer?**

Point out where Camp Muir is. There is a ranger cabin, guide cabin (dorm), guide hut (kitchen), public shelter, and an outhouse. There isn't one ranger living at Muir for the entire summer; rather, there are several rangers rotating shifts.



- 7) Why do they leave Muir for the summit when it's still dark? How do they see?**  
It is easier to climb the mountain while it's still cold and frozen – easier for crampons and ice axes to “dig in.” Later in the day the surface can soften up and become slippery. There is also a greater chance for rock fall. They are able to see by moonlight and headlamps.
- 8) How many people climbed Mount Rainier last year?**  
About 10,000 – 12,000 people attempt to reach the summit. Approximately 50% make it. The rest turn around for a variety of reasons including adverse weather conditions or lack of physical stamina. The height of the climbing season is usually July and August.
- 9) How long does it take to climb the mountain? How far is it hiking?**  
A typical climb under ideal circumstances takes two days, with one night spent at a high camp. The standard route on the Paradise side of the mountain involves leaving Paradise and hiking to Camp Muir to spend the night. Climbers leave Camp Muir at about 1am on the second day. They reach the summit by about 9 am. Climbers then return to Paradise that afternoon. The distance is 9 miles each way (with 9000 feet elevation gain!).
- 10) How far is it from here to the summit as the raven flies?**  
5 miles from the visitor center.
- 11) What is that bright red flower? I saw some orange ones just like it on the drive up here.**  
Magenta Paintbrush. The orange flowers are Indian Paintbrush. The bright color of this plant is not from the flowers, but rather the bracts. Bracts are a modified leaf structure. The flowers are down inside the bracts.
- 12) What is that furry animal I saw running across the meadows?**  
Hoary Marmot. The marmot spends the fall, winter, and spring hibernating. They are only active during the summer.
- 13) Where can I see bears? Goats? Mountain Lions?**  
The Paradise area is a good place to see bears. Bears have also been sighted along the lakes trail and at Snow and Bench Lakes. Other hot spots for bears include Klapatche Park, Golden Lakes, Glacier Basin, Summerland, Shriner Peak, and Stevens Canyon.  
Bears are omnivorous. They can run up to 30 mph. There are 150 – 350 bears in the park. Look for trees stripped of bark with claw marks, overturned rocks and logs, fir on the bark of trees, scat (usually full of berries), or tracks in dirt and snow.  
When traveling in bear country, make noise, and be wary of where bears may be – near berries or carrion. When camping in bear country – keep a clean camp! Pack out all trash! ALWAYS HANG FOOD! Do not store food in tents or backpacks.  
Bear Encounters – Bear will usually flee as soon as they detect your presence. Stay calm, stop and slowly back away. Do not run or turn your back to the bear. Speak softly and calmly to identify yourself as a human; move away from cubs.  
Goats can be seen just about anywhere in the park. Look in areas of moderate elevation (4,000 – 8,000 ft). Goats prefer steep rocky slopes. Often times goats can be viewed while hiking the Rampart Ridge trail. Goats are also often spotted on Cushman Crest and Mazama Ridge.

Mountain Lions (cougars) are in the park, although they are rarely sighted. They have been spotted near the Nisqually entrance, Kautz Creek, along the Stevens Canyon road, and in the Cougar Rock campground. They primarily prey on deer and elk. If you encounter a cougar – do not run! Face the cougar and pick up small children. Shout and make noise – wave arms and make yourself look bigger.

- 14) What is that stuff that looks like moss hanging from the trees? Is it killing them?**  
Goat's beard (green) or horse hair (brown) lichen, and it is just hanging around, making its living out of moisture in the air. It does no harm to the trees. It's often more visible in dead trees simply because, in living trees, it's hidden by the tree's needles.
- 15) Where can I hike to touch a glacier? Where can I hike to stand on a glacier?**  
Make sure visitors know that glaciers are very dangerous and they should have the proper equipment—and a climbing permit—to hike on them. Visitors can be directed to Nisqually Vista, Glacier Vista, or the Moraine Trail to get a good look at the Nisqually Glacier. In other areas of the park, visitors can get close to the Emmons or Carbon Glaciers.
- 16) How thick are the glaciers?**  
The thickest is the Carbon Glacier, which is approximately 700 feet thick. The Nisqually Glacier is about 400 feet thick.
- 17) How tall is the snout of the Nisqually Glacier?**  
150 feet.
- 18) Are the glaciers retreating?**  
The advance or retreat of a glacier is controlled by climatic conditions. Snow accumulation and snow melt are dependent on yearly weather patterns as well as the location of the glacier on the mountain. Glaciers on the same mountain can act differently; for instance, in some recent years the Nisqually glacier retreated while the Emmons glacier advanced. On balance, over the last thirty years, all of the glaciers on Mount Rainier have retreated.
- 19) Why are glaciers blue?**  
Glaciers are blue for the same reason the sky is blue and Crater Lake is blue. Glacial ice is so dense that no cracks or bubbles are present to reflect white light. The remaining (frozen) pure water absorbs essentially all of the colors of the rainbow except for blue—the only color left to be transmitted back to our eyes.
- 20) Which is the largest glacier?**  
In area, the Emmons Glacier (4.3 square miles). The largest in volume is the Carbon Glacier (0.2 cubic miles).
- 21) What is the difference between a glacier and a snowfield?**  
A glacier is defined as a thick mass of ice, originating from the compaction and re-crystallization of snow, that shows evidence of flowing under the force of gravity. A snowfield is simply an area where the snow persists throughout the year.
- 22) How high is the Mountain? Is it the tallest in the US?**  
14,410 feet (4392 meters). It is the 5<sup>th</sup> tallest in the lower 48 states (after Whitney in California and three peaks in Colorado) and the 19<sup>th</sup> tallest in the entire US.

- 23) When did Mount Rainier last erupt? Is it dormant?**  
Rainier is an episodically active volcano in a dormant phase. Periodic tremors and active steam vents at the summit indicate that it is only sleeping, not dead. According to eyewitness accounts, there was a small steam eruption in 1894. The last lava eruption occurred about 1100 years ago; eruptions about 2000 years ago built the current summit cone. The last pumice and ash eruptions were probably during the 1840s.
- 24) What is the large mountain I see to the south?**  
Mount Adams is the large mountain with a rounded top. Mt. St. Helens is the one with a flat top. On clear days from high vistas, you can also see the sharp-pointed Mt. Hood in the distance.
- 25) When will the flowers be at their peak?**  
It varies from year to year, depending on when the snow melts. Typically the peak bloom is around the end of July or beginning of August.
- 26) Is this the right trail to the Ice Caves? Are they open?**  
The ice caves in the Paradise Glacier are legendary for their beauty. Unfortunately, the glacier has dwindled significantly in recent decades. The caves became hazardous and were closed during the 1980s. By now, they are gone completely. The glacier itself is now a stagnant, unmoving ice mass. Visitors can still visit it by trail, five miles round trip from Paradise.
- 27) Why aren't pets allowed on the trails? Where can I hike with my dog?**  
Pets damage the resource. They can be harmful to wildlife either by chasing or passing on disease. The pet's odor alone can be enough to drive an animal out of an area. Pets can also be bothersome to other visitors. For these reasons, pets are only allowed in the park on leash and in campgrounds, picnic areas and roadways only. There are numerous good trails in the surrounding national forests that are great for pets. The visitor center has maps to some of these.
- 28) Why aren't mountain bikes allowed on trails? Where can I bike in the park?**  
Mountain bikes damage the resource. They also create a conflict with other trail users. Bikes, like pets, are only allowed on roads in the park.
- 29) What happened to the old Jackson Visitor Center?**  
Construction on the new, more energy-efficient Jackson Visitor Center was completed September 2008 and was dedicated October 2008. The old Visitor Center was torn down. The old visitor center was where the lower parking lot is (overnight/long-term parking) Many volunteers helped place over 56,000 plants to restore the area to its former natural beauty.
- The new Jackson Visitor Center is better built to withstand the harsh winter conditions at Paradise. Notice the steep roofing and the length it extends over the side of the building. This is to prevent snow from building up to a dangerous point. The building is also much better insulated, as well as being disabled accessible.
- 30) What is the weather forecast? When will the mountain be visible?**  
Check at the visitor center for a weather forecast. Everything depends on the weather!

## SUNRISE Q&A's

### 1. How far do we have to hike to get to the nearest snow?

Snow varies from year to year and month to month; north-facing slopes hold snow longer into the summer. Visitors can usually find some snow in the Frozen Lake area well into the summer. Remind people to **stay on the trail**; they are not supposed to leave the trail to reach a snow patch area. If even a handful of people do this, social trails will develop that scar the area for years.

### 2. Is Sunrise open in the winter?

No. Sunrise Road usually closes in October and opens every year during the last week of June or first week of July. Refer visitors to photo album in Visitor Center to get an idea about how snow depth in winter.

### 3. What is the most popular climbing route on this side of the mountain?

White River Campground past Glacier Basin to Camp Schurman then onto the Emmons Glacier up to the summit.

### 4. When was Mount Rainier first climbed?

In 1857, August Kautz and four companions made the first documented attempt to climb to the summit. Kautz almost made it. The rest of his party had turned back due to exhaustion. Kautz made it to about the 14,000 ft level before turning back due to the late hour and changing weather.

In 1870, Hazard Stevens and Philemon Van Trump made the first successful documented climb to the summit. They were guided to Bear Prairie by James Longmire, and from there to Paradise by an Indian named Sluiskin.

Based on oral traditions, native people probably made it to the top before then.

### 5. Where is Camp Schurman? What is up there? Does a ranger live there all summer?

(Point to Steamboat Prow) It's on the ice behind the Prow. There is a ranger rescue hut and a solar toilet. Several rangers take turns carrying up supplies and staying for several days in the summer.

### 6. Why do climbers leave camp for the summit in the dark? How do they see?

It's easier and safer to climb while the ice and snow are still cold and frozen, when crampons and ice axes dig in. Later, it gets softer and slippery and there is a greater chance of rockfall. They see with headlamps and moonlight.

### 7. How many people climb Mt. Rainier every year?

About 10,000-12,000 people attempt to reach the summit; about 50% actually make it. Climbers turn around for a variety of reasons, including bad weather conditions, lack of physical stamina, or altitude-related problems. The height of climbing season is Memorial Day to Labor Day.

### 8. How long does it take to climb the mountain? How far is it hiking?

2-3 days. Up to Camp Schurman the first day, summit the second and returning to Schurman, then out that day or the next.

White River Campground to Glacier Basin    3.1 miles

Glacier Basin to snout of Inter-glacier	1.0 mile
Snout of Inter-glacier to Camp Schurman	1.5-2 miles (3000' gain)
Camp Schurman to summit	2 miles (5000' gain)

**9. How far is it to the summit as the raven flies?**

From Sunrise Visitor Center, about 7 miles; from Burroughs, about 5 miles.

**10. What's that big furry animal running across the hillside?**

A hoary marmot; they spend fall, winter and spring hibernating; eat and sun themselves in summer; they have a loud whistle as an alarm call.

**11. Where can I see a bear? Mountain goat?**

Bears are commonly seen in Stevens Canyon, the Bench and Snow Lake areas and Paradise Valley, especially in late summer when the huckleberries are ripening. Goats are often seen from Sourdough Ridge and the Mt. Fremont area. A great place to view goats is the White River amphitheater looking up at Goat Island Mountain.

If a visitor asks about wildlife, take the time to mention the disadvantages of feeding wild animals or approaching them. Besides the fact that it is illegal, they may harm the animal or themselves. If the animal reacts in any way, you are too close, because you are making it change its behavior to accommodate your presence (this goes for birds, too).

**12. What's that mossy stuff hanging from the trees? Is it killing them?**

Goats beard (green) or horse hair (brown) lichen, and it is just hanging around, making its living out of moisture in the air. It does no harm to the trees.

**13. Where can I stand on/touch a glacier?**

Suggest places to safely view the Emmons Glacier from the Sunrise area or hike on the Emmons Moraine trail for a closer view.

Glaciers can be very dangerous because of crevasses on top and rockfall off the sides and snout. Unpredictable flooding, originating from glaciers, may occur at any time. Climbing equipment and know-how are recommended and a climbing permit is required for travel on glaciers.

**14. How big are the glaciers?**

There is a cubic mile of ice and snow on top of Mount Rainier. There are 25 glaciers on Mount Rainier. The largest by area is Emmons Glacier, 4.3 square miles. The thickest and most voluminous is the Carbon Glacier, 700' thick, .2 cubic miles.

**15. Are the glaciers advancing?**

The advance or retreat of a glacier is controlled by climatic conditions. Snow accumulation and snow melt are dependent on yearly weather patterns as well as the location of the glacier on the mountain. Glaciers on the same mountain can act differently; for instance, at the present time the Nisqually glacier is retreating while the Emmons glacier is slowly advancing.

**16. What's that brown stuff on the glacier?**

Rockfall from above and landslide debris, plus dust blown onto the glacier.

**17. What's the difference between a glacier and a snowfield?**

A glacier is a mass of ice that moves and you can see evidence of flow in the White River's glacial flour, ground rock giving the water its milky appearance. Compare to the Ohanapecosh River which flows from a snowfield.

**What is that cave in the Emmon's Glacier?**

It is actually a cave created by hot water that comes out of a small vent in the area.

**18. How high is the mountain? Is it the tallest in the US?**

Officially it is 14,410 feet (4392 meters). It is the 5<sup>th</sup> tallest in the lower 48 states (after Whitney in California and three peaks in Colorado) and the 19<sup>th</sup> tallest in the entire US.

**19. When did it last erupt? Is it dormant?**

Rainier is an episodically active volcano in a dormant phase. Periodic tremors and active steam vents at the summit indicate that it is only sleeping, not dead. According to eyewitness accounts, there was a small steam eruption in 1894. The last lava eruption occurred about 1100 years ago; eruptions about 2000 years ago built the current summit cone. The last pumice and ash eruptions were during the early to mid 1800s.

**20. What is the flat top mountain I saw from Sunrise Point? What other volcanoes can I see from high points near here?**

Mt. Adams, 45 miles to the south, and on clear days Mt. Hood, 100 miles. To the north, Glacier Peak, 90 miles and Mt. Baker, 135 miles, from Sourdough Ridge and Mt. Fremont.

**21. Where is the best place to view wildflowers?**

On this side of the park, early season, the Glacier Basin Trail from the campground, the Silver Forest and Mt. Fremont Trail from Sunrise. Later, anywhere here at Sunrise, especially toward Berkeley Park. Very late, still good in the Palisades, which melts out late.

**22. Why aren't pets allowed on trails? Where can I hike with my dogs?**

Pets damage the resource. They can be harmful to wildlife either by chasing or passing on disease. The pet's odor alone can be enough to drive an animal out of an area. Pets can also be bothersome to other visitors. For these reasons, pets are only allowed in the park on leash and in campgrounds, picnic areas and roadways only. There are numerous good trails in the surrounding national forests that are great for pets.

**23. Why aren't mountain bikes allowed on trails? Where can I bike in the park?**

Mountain bikes damage the resource. They also create a conflict with other trail users. Bikes, like pets, are only allowed on roads in the park.

**24. What flower is that?**

If you don't know, try to find in a field guide. Also direct visitors to the Visitor Center where labeled flowers grace the front yard.

**25. We heard a low sound next to the trail - was it a bear?**

The low "hoot" is the courtship call of the male blue grouse (the hens cluck). You may be lucky enough to witness the male's visual courting display – strutting with inflated yellow air sacs on its neck.

**26. What is the weather forecast? When will the mountain come out?**

Check at the Visitor Center. All depends on the weather.....

## **Meadow Rover Resources:**

### **Training Opportunities and Information for Rovers:**

Authority of the Resource Techniques:

[http://www.bouldercolorado.gov/files/openspace/pdf\\_involvement/authority-of-resource.pdf](http://www.bouldercolorado.gov/files/openspace/pdf_involvement/authority-of-resource.pdf)

National Park Service Online Interpretive Training Classes:

<http://www.parktraining.org>

Foundations of Interpretation course is free. Informal Visitor Contacts course is recommended. There is a discount code to lower fee based courses to \$29.00. Contact [mora\\_meadow\\_rovers@nps.gov](mailto:mora_meadow_rovers@nps.gov) to get the discount code.

Online Avalanche Training: <http://www.avalanche.ca/cac/training/online-course>

How to Read Topographic Maps: <http://www.map-reading.com/intro.php>

Orienteering Tutorials: <http://www.learn-orienteering.org/old/>

[http://bsatroop14.com/outdoor/Compass-Maps/Orienteering\\_Activity\\_Guide.pdf](http://bsatroop14.com/outdoor/Compass-Maps/Orienteering_Activity_Guide.pdf)

Using a GPS: <http://www.map-reading.com/appendj.php>

<http://www.squidoo.com/GPS-basics-background>

[http://ww2.trimble.com/gps\\_tutorial/](http://ww2.trimble.com/gps_tutorial/)

Land Navigation without a GPS or Compass:

<http://www.squidoo.com/alternative-navigation>

Wildflowers of Mount Rainier web site by Donovan Tracy :

<http://www.flowersofrainier.com/Index%20Enter/index.htm>

Mount Rainier National Park Brochures:

<http://www.nps.gov/mora/planyourvisit/brochures.htm>

<b>JOB HAZARD ANALYSIS:</b>  Roving Duty	<b>JOB TITLE:</b> Park Ranger  <b>DEPARTMENT:</b> Interpretation  <b>ANALYSIS BY:</b> Ted Stout	<input type="checkbox"/> <b>NEW</b>  <input type="checkbox"/> <b>REVISED</b>
<b>Required and/or Recommended Personal Protective Equipment:</b> <b>PARK RADIO;</b> 10 Essentials: map, compass, extra food & water, first aid kit, flashlight w/ extra bulb and batteries, sunglasses & sunscreen, pocketknife, extra clothing & rain gear, emergency shelter, matches in a waterproof container;		
<b>Sequence of Basic Job Steps</b>  Team up with another staff person, if possible. Make sure that others know where you are going and when you will return.  Check the weather forecast, avalanche forecast and current trail conditions. Dress appropriately.  Assemble required gear.  Check for radio signal by clicking it near base station.  Once you arrive at the trailhead notify Comm. Center and make contact with potential back-up personnel.  Practice situational awareness at all times.  Contact Dispatch upon your departure from the trailhead. Contact VC if you will be returning late.	<b>Potential Hazards</b>  Mount Rainier can be a dangerous place. The steep terrain, snow/ice, mature trees, wildlife and active volcano contribute to potential hazards in the field. In addition to these natural hazards assaults on staff in the field have occurred in recent years.  Weather can change quickly and snow can make it difficult to follow trails.  Remember the reasons WHY we rove (listed below in descending order of importance): 1. resource protection 2. visitor contact/ assistance 3. familiarity with the resource #1 and #2 are best achieved in the front-country so do not wander too far afield.	<b>Recommended Action or Procedure</b>  If you are unfamiliar with the area or uncomfortable with the assignment then speak to your supervisor.  See list above.  If signal is not being picked up by base station, change battery or get another radio. If none of these actions results in a functioning radio, <b>do not go out.</b>  Take advantage of available training in self-defense and situational awareness.  Model safe behavior by following the advice that we give visitors: -Stay on trails -Do not over exert -Have a mental plan of action for dealing with wildlife encounters, geo-hazards, strange visitors etc... -Don't forget the "11 <sup>th</sup> Essential" common sense!  <b>SAFETY FIRST!</b> <b>You are empowered to postpone or cancel roving for any safety reasons.</b>



# VIP Quarterly Hours/Contacts-Sheet

Month(s):	Print Full Name:
-----------	------------------

[illegible]